

MAQTQGTRRKVVCYYYDGDVGNYYQQGHPMKPHRIRMTHNLLIN
YGLYRKMEIYRPHKANAEMTKYHSDDYIKFLRSIRPDNMSEYSKQMQRFRNVGEDCPV
FDGLFFFCQLSTGGSVASSAVKLNKQQTDIAVNWAGGLHHAKKSEASGFCCYVNDIVLAI
LEILKYHQRVLYIDIDIHGDGVEEAFYTTDRVMTVSFHKYGEYFPGTGDLRDIGAGK
GKYAVYPLRGDGIDDESYEAIFKPVMSKVMMEMFQPSAVVLQCGSDSLSGDRLGCFNL
TIKGHAKCVEFKSFNLPMILGGGGYTIRNVARCWTYETAVALDTEIPNELPYNDYF
EYFGPDFKLHISPSNMTNQNTNEYLEKIKQRLFENLRMLPHAPGVQMQAIPEDAIPEE
SGDEDIDPDFKRIISICSSDKRIACEEEEFSDSEEEGGGRKNSSNFKKAKRVKTDEDEKE
KDPEEKKEVTEEEKTKEEKPEAKGVKEEVKLA (SEQ ID NO: 1)

FIG. 1A

1 atgtctgggg tctctgccc ctgggtctgc tgtctccac tggtcatcc tgagaacaca
 61 gcctgagcgr ctctgtcact cggggtagac cacggccac ggcgaggcaag atggcgaga
 121 cgccaggcac cggaggaaa gtctgttact actacgacgg ggatgttgg aattactatt
 181 atggacaagg cacccaaatg aagcctcacc gaatccgcat gactcataat ttgtgtctca
 241 actatggtct ctaccggaaa atggaaatct atccgcctca aatttttgcg aaaaacaaat gcttaggaga
 301 tgaccaagta cacagcgat gactacatta aatttttgcg atccatccgt ccagataaca
 361 tgtcgaggta cagcaaggcag atgcagagat tcaacgttgg tgaggactgt ccagtattcg
 421 atggcctgtt ttagttctgt cagttgtcta ctgggtgttc tggcaagt gctgtgaaac
 481 ttaataagca gcagacggac atcggcgtga attgggtctgg tggtggcaact catgcaaaga
 541 agtccgaggc atctggttc tttacgtca atgatatcgt ctggccatc ctggaaactgc
 601 taaagtatca ctaggggtg ctgtacatgg acattgatat tcacatggt gacggcggtgg
 661 aagaggcctt ctacaccacg gacgggtca tgactgtgtc cttcataag gggcctgca
 721 acttccagg aactggggac ctacgggata cgggggtgg caaagacaag tattatgtcg
 781 ttaactaccc gctccgagac gggattgtat acgggtccta tgaggccat ttcaaggccgg
 841 tcatgtccaa agtaatgggg atgttccagg ctagtgccgt ggtcttacag tttcataag
 901 actccctatc tggggatcgg ttagttgtct caatctatc tatcaaaggg caccgcaagt
 961 gtgtggatt tgtcaaggag ttaacctgc ttaggttgc ttaggttgc ttaggttgc
 1021 ccattcgtaa cttggccgg tgctggacat atgactact tcaatctatc ttaggttgc
 1081 tccctaatga gttccatac aatgactact ttggggatcgg ttaggttgc ttaggttgc
 1141 acatcagtcc ttccaatatg actaaccaga acatggatga ttaggttgc ttaggttgc
 1201 aggactgtt tgagaacctt aagatgtgc ttaggttgc ttaggttgc ttaggttgc
 1261 ttccctgagga cgcctccct gaggaggatgt gcaatgtgc ttaggttgc ttaggttgc
 1321 gcatctcgat ctgctctctt gacaaacgaa ttggccgtga ggaagggttc cttccaaactt
 1381 aagagggg agagggggc cgcaagaaact ctccaaactt cttccaaactt aagagggtca
 1441 aaacacaggta gggccaaag aaagaccag aggaaaaggaa aggaatcacc gaaggaggaga
 1501 aaaccaaggta ggagaaggccaa gggccaaag ttggccctgaa ttcccttcacg ttcccttcac
 1561 tggacctctc cagctcttggc ttccctgtga ttcccttcacg ttcccttcac (SEQ ID NO:2)

FIG. 1B

MAYSGGGKKCKVCRYYDGDIGNYYYYGQGHPMKPHRTIRMTHNLL
 NYGLYRKMEIYRPHKATAEEMTKYHISDEYIKFLRSIRPDNMSEYSKQMHTIPFNVGEDCP
 AFDGLFEFCQLSTGGSVAGAVKLNRQQTDMAVNWAGGLHHAKKYEASGFCYVNDIVLA
 ILELLKYHQRVLYIDIDIHRGDGVEEAFYTTDRVMTVSFTYGEYFPGTGDLRDIAGAG
 KGKYYAVNFPMCDDESYQIFFKPITISKVMEMIQPSAVVILQCCGADSLSGDRLGCFN
 LTVKGHAKCVEVVVKTFNLPLMLGGGGYTILRNVARCWTYETAVALDCEIPNELPYNDY
 FEYFGPDKLHISPNSMTNQNTPEYMEKIKQRLFENLRMLPHAPPGVQMQAIPEDAVHE
 DSGDEDGEDPDKRISTRASDKRIACDEEFSDSEDEGEGRNVADHKKGAKARIED
 KKETEDKKTDVKEEDKSKDONSGEKTDTKGTKSEQLSNP (SEQ ID NO: 3)

FIG. 2A

1	cgcggagctt	tggcaccc	tacccgggtt	tcggagcct	ccccggccc	ccctccctcc
61	ctccaccgg	cctgccc	atcgcccc	acgtttccc	cagcccttt	gaggagcccg
121	ctctccggc	cgagccgg	agcaggcagc	gcagcaggag	aaaaaaagt	aaaaaaagt
181	gtgggggg	tggggggg	tacagtcaag	gaggcgcaa	tcccatgaag	atggtttaca
241	tgctactact	acgacgggtga	tattggaaat	gacagggtca	cggaaaat	cggaaaat
301	cctcatagaa	tccgcgtgac	ccataacttg	ctgttaaatt	atggtttaca	cggaaaat
361	gaaatataa	ggcccataa	agccactgcc	gaaggaaatga	aaaaatatac	cggatgtgg
421	tatataaat	ttctacggtc	aataaggacca	gataaacatgt	ctgaggatag	taaggcagatg
481	catatattt	atgttgagaa	agatttgtcca	gcgtttgtatg	gacttttga	gttttgtcag
541	ctctcaactg	gcgggttcagt	tgctggagct	gtgaaggataa	gacttatac	gactgtatgt
601	gctgttaatt	gggttggagg	attacatcat	gctaaggaaat	acgaaagcata	aggatccctgt
661	tacgttaatg	atattgtct	tgccatccct	gaattactaa	agtatccat	gagagatctt
721	tatatcgata	tagatattca	tcatggtgat	ggtgtcgaag	aagctttta	tacaaacagat
781	cgtgttaatg	cggtatcatt	ccataaaat	gggaaatact	ttcctggcac	aggagacttg
841	aggatattg	gtgttggaaa	aggcaataac	tatgtctgtca	atttccaaat	gtgtgtatgt
901	atagacgatg	agtcatatgg	ggagatattt	aaggcttata	tctcaaagggt	gtatagacttg
961	tatcaacc	gtgttgggt	attacatgtt	gggtgcagact	cattatctgg	tgatagacttg
1021	ggtgtttca	atctaaccat	agggttcat	gctaaatgtg	tgcgtatgt	aaaaaacttt
1081	aacttaccat	tactgtatgt	ggagatgtt	tgcgttgcacaa	tgcgtatgt	tgctcgatgt
1141	tggacatatg	agactgcagt	tggaggagg	ggctacacaa	ccaaacgggtt	aaaaacataat
1201	gattactttg	agtattttgg	accagacttc	tgtgaggattc	ttagtccccc	aaacatgaca
1261	aaccagaaca	ctccagaata	tacggaaaag	aaactgcata	gtttgtttga	aaatttgcgc
1321	atgttaccc	atgcacctgg	tgtccaggatg	caagctttc	ccaaacgtgc	tgttcatgaa
1381	gacagtggag	atgaaggatgg	agaagatcca	gacaaggagaa	tttctattcg	agcatcagac
1441	aaggggatag	cttgtgtatg	agaattctca	gatttctgagg	atgaaggaga	aggagggtcg
1501	agaaaatgtgg	ctgtatcataa	gaaaaggagca	aaaggaaaggct	gaatttggaaa	agataagaaa
1561	gaaacaggagg	acaaaaaaaa	agacgttaag	gaaacaggctca	aatccaaaggta	caacagtgg
1621	gaaaaaacag	atacccaaagg	aacccaaatca	gaaacaggatgg	gcaacccctg	aatctgacag
1681	tctcaccaat	ttcagaaaaat	cattaaaaag	aaaatattga	aaggaaaaatg	tttttttttt
1741	gaagactttc	ggtttccattt	tataacttt	tggcatggac	tgtattttatt	ttcaaatgggg
1801	actttttcg	ttttgttttt	ctgggcgaat	tttattttgtga	gattttctaa	ttatgaaaggca
1861	aaatttctt	tctccaccat	gctttatgtg	atagatattta	aaatttgtatgt	gagtttattat
1921	gtcaaaaaaaa	ctgatctattt	aaaagaaatgaa	ttggcccttc	tgagctgaaa	aaaaaaaaaa
1981	aaaag (SEQ ID NO:4)					

FIG. 2B

MAKTVAYFYDPPDVGNFHYGAGHPMKPHRLALTHSLVLYHGLYKK
MIVFKPYQASQHDMCRFHSEDYIDFLQRVSPTNMQGFTKSILNAPNVGDDCPVFPGIFE
FCSRRTGASLQGATQLNPKICDIANWAGGLHHAKKEASGFCCYVNDIVIGILELLKY
HPRVLYIDIDIHGDGVQEAFYLTDRVMTVSSFHKYGNYFFPGTGDMYEVGAESGRYYC
LNVPLRDGIDDQSYKHLFQPVTINQVVDFYQOPTCIVLQCGADS LGCDRLGCFNLISRIGH
CECVVEYVKSFNIPPLLVGGGYTVRNVARCWTYETSSLVEEAISEELPYSEYFEYFAP
DFTLHPDVSTRRIENQSRQYLDQIRQTIFENLKMLNHAPSQIHDPADLLTYDRTDE
ADAEEERGPEENTYSRPEAPNEFYDGDHDNDKE:SDVEI (SEQ ID NO: 5)

FIG. 3A

FIG. 3B

MIAKHHQQELLEHQRKLERHRQEQQELEKQHREQQKLQQLKINKEKG
 KESAVASTEVKMKLQEFVLINKKKALAHPNLNHCISSSCPRYWYGKTQHSSLDQSSPPQS
 GVSTSYNHPPVLGMYDAKDDFPLRKTTASEPNLKLRSRLKQKVAERRSSPLRRKDGPVV
 TALKKRPLDVTDSACSSAFCGSSSPNNSGSVSAENGIAPAVPSIPAETSLAHLVVA
 REGSAAPLPLYTSPSLPNITLGLPATGPSAGTAGQQDTTERLTLPALQQRLSSLFPGTHL
 TPYLSTSPLERDGGAHSPLLQHMVVLLEQPPAQAPLVTGLGALPLHAQSSLVGADRVS
 SIHKLRQHRLGRTOQSAPLPQNAQALQHLVIQQQQHQFLEKHKOOFQQQQLOMNNKIIIP
 KPSEPARQPESHPEETEEELREHQALLDEPYLDRLPGQKEAHQAQAGVQVKQEPIESDE
 EEAEPREVEPGQRQOPSEQELLFRQQALLEQQRIHQRLRNYQASMEAAGIPVSGGGHR
 PLSRAQSSPASATFPVSQEPPTKPRFTTGLVYDTMLKHQCTCGSSSSHPFHAGRIQ
 SIWSRILQETGLRGKCECIRGRKATEELQTVHSEAHTLLYGTNPFLNRQKLDSSKKLLGS
 LASVFVRLPCGGVGVDSDTIWNNEVHSAGAARLAVGCVVELVFKVATGEIKNGFAVVRP
 PGHHAEESTPMGFCYYFNSVAVAAKLLQQRLSVSKILLIVWDVDVHHGNGTQQQAFYSDPSV
 LYMSLHYDDGNFFPGSGAPDEVGTGPGVGFNFVNMAFTGGLDPPMGDAEYLAAFRTVV
 MPIASEFAPDVVLASSGFDAVEGHPTPLGGYNLSARCFCGYLTQQLMGLAGGRIVLALE
 GGHDLTAICDASEACVSALLGNELDPLPEKVLQQRPNANAVSMEKVMIEHSKYWRCL
 ORTISTAGRSLIEAQTCENEEAETVTAMASLSVGVRPAEKRPDEEPMEEEPPL (SEQ ID NO: 7)

FIG. 4A

FIG. 4B-1

1	ggaggtttgt gggccgcgc	cggggagcac cgtccccgac	cccgcccccgg cggccggccgc	cccgagccccg agccttccc	cccgagccccg agccttccc
61	agcccgccca cccggccgc	ccggcccccgg cgtggccgc	ccggcccccgg tcgcccggctg	ccggcccccgg agcccggagcc	ccggcccccgg agcccggagcc
121	ccggggggcg ccgtggccgc	ccgtggccgc gtggatggctg	ccgtggccgc ggagatggcg	ccgtggccgc cggaggaggcg	ccgtggccgc ctagaggaggcg
181	cggtgtggcg cgcaaggctg	cgcaaggctg ggagatggcg	cgcaaggctg cggggaggcg	cgcaaggctg cggaggaggcg	cgcaaggctg ctagaggaggcg
241	ccggccggcc ccggccgggt	ccggccggcc aagcgcagcc	ccggccggcc cggggccggcc	ccggccggcc gcccggggcc	ccggccggcc cattgtccgc
301	cgcccccccg gggcccccgg	cgcccccccg cggcttgacg	cgcccccccg gccttgacg	cgcccccccg cggcggcagg	cgcccccccg tggacggccgc
361	cggtcacac ccgggtcccc	cgggtcccc ccggcccccgg	cgggtcccc ggccggccgt	cgggtcccc ggaggggggg	cgggtcccc gccaggcgctg
421	gtgggaccgg cggccggctt	gtgggaccgg cggccggctt	gtgggaccgg gccccttctg	gtgggaccgg gacccttcca	gtgggaccgg cccggccggcc
491	gaggccggtt cggccgggg	gaggccggtt cggccgggg	gaggccggtt cacggcaggc	gaggccggtt cacggcaggc	gaggccggtt cacggcaggc
541	tctccgggt gggggccgc	tctccgggt gggggccgc	tctccgggt gggggccgc	tctccgggt gggggccgc	tctccgggt gggggccgc
601	tctgttcaac ttgtgggtt	tctgttcaac ttgtgggtt	tctgttcaac ttgtgggtt	tctgttcaac ttgtgggtt	tctgttcaac ttgtgggtt
661	acgtctgtga cccaggccct	acgtctgtga cccaggccct	acgtctgtga accgtcccgg	acgtctgtga tacttgtatg	acgtctgtga tacttgtatg
721	tcgttggagg tatcgtttcc	tcgttggagg tatcgtttcc	tcgttggagg gtggaaattt	tcgttggagg gtggaaattt	tcgttggagg gtggaaattt
781	acattgttag caatgagctc	acattgttag caatgagctc	acattgttag ccaaaggccat	acattgttag ccaagatggac	acattgttag cttctggccg
841	gtggaggctgc tgaatccgg	gtggaggctgc tgaatccgg	gtggaggctgc ccgtgtgaac	gtggaggctgc cacatgcca	gtggaggctgc gcacgggtgg
901	gcgcgtgcctc tgcaagtggc	gcgcgtgcctc tgcaagtggc	gcgcgtgcctc ccccccggca	gcgcgtgcctc gegcccatgg	gcgcgtgcctc acccgccct
961	ttctcactgc ctgtggcaga	ttctcactgc ctgtggcaga	ttctcactgc gccccccctg	ttctcactgc cggggaggcgc	ttctcactgc agctgcagca

FIG. 4B-2

FIG. 4B-1

FIG. 4B-2

FIG. 4B-3

FIG. 4B-4

FIG. 4B-5

FIG. 4B-3

FIG. 4B-1

1021	gcgcgtcaagc	agaaggcaggc	gatccagggg	cagcccttca	tcgcccagggtt	ccagaggcg
1081	cacggccagc	tctccggca	gcacccaggcg	cagctccacg	gcaataacaa	gcaataacag
1141	gagatgtcg	ccatgaagca	ccaggcagg	ctgctggAAC	accaggggAA	gctggaggagg
1201	caccggcagg	aggaggaggct	ggagaaggcag	caccggagg	agaaggctgca	gcagctcaag
1261	aacaaggaga	aggcaaaa	gaggaaaggcag	gggtgccgtg	gcccacgggA	gaagttacaa
1321	gaatttgtcc	tcaataaaa	gaaggccgtg	gcccacgggA	atctgaacca	ctgcacttcc
1381	agagacccctc	gctactggta	cggaaaaacg	cggcaggc	cccttgacca	gagttctcca
1441	cccaggaggcg	gagtgtcgac	ctctataaac	cacccgggtcc	tggaaatgttA	cgacggccaaa
1501	gatgacttcc	ctcttaggaa	aacagtttct	gaaccgaatc	tggaaatcacg	gtccaggcttA
1561	aaggaaaaag	tggcggaaag	acggaggcgc	ccccctgttac	gcaggaaaggA	cggggccagggt
1621	gtcactgtctc	taaaaaaggcg	tccgttggat	gtcacagact	cgcggtggcg	cagcggccca
1681	ggctccggac	ccagctcacc	caacaacaggc	tccggggaggcg	tcgcgtggag	gaacgggtatc
1741	gcgcggccgg	tcccaggcat	ccccctctac	acatgcctac	cgtggccaa	catcacgctg
1801	gaaggctcgg	ccgctccact	ccacggccc	ctctggggc	acggggggcc	cggaggacac
1861	ggcctgcctg	ccacggccc	ccctccaggca	ggggctctcc	ctttccccgg	cactccctac
1921	acccttcccg	cgcccttggaa	gcccggacgga	ggggcaggcgc	acagccctct	tctgcaggcac
1981	ctgagcacct	tggaggcagc	accggcacaa	gcaccccttcg	tcacaggccct	ggggaggtaactg
2041	atggtttac	tcaggcttctt	ggtgtgggtgt	tcggcccccgc	ccccctccat	ccacaaggctg
2101	ccccctccacg	gcccactggg	gcccggcccg	tcggcccccgc	tgccccagaa	cgcccaggct
2161	cggcaggcacc	tcgttcatcca	gcaggcagcat	cggcgtttc	tggagaaaca	caaggcaggag
2221	ctgcaggcacc	agcaactgca	gatgaacaag	atcatcccc	agccaaaggcga	gccaggccccgg
2281	ttccaggcaggc	gccacccggg	ggggacgggg	gtgaggcacc	ggccggcggt	ggctctgtctg
2341	cagccgggaga	acccggccct	ggggacgggg	gaggaggctt	tcagacagca	ggccggcggt
2401	gacggggccct	aggaggccat	ggggacgggg	gagaaggagg	cgcacgcaca	ggccggccggc
2461	cagggtggaggc	aggcccccatt	tggaggcgtt	gagggaggagg	cagggcccc	acgggggtgt
2521	gagccggggcc	aggcccccatt	cagtggaggc	gagggtgttct	tcagacagca	agccctccctg
2581	ctggaggcaggc	aggccatccca	ccagctgggg	aactaccagg	cgtccatgg	ggccggccggc
2641	atccccgtgt	ccttcggcg	ccacaggcct	ctgtccgggg	cgcaggccctc	acccgggtct
2701	gccaccttcc	ccgtgtccgt	gcaggaggccc	ccaccaaggc	cgagggttac	gacaggcccc
2761	gtgtatgaca	cgctgtatgtct	gaaggcaccag	tggacccatgg	gggttagcag	cagccacccccc
2821	gaggcacggccg	ggggatccca	gaggcatctgg	tcccccctgc	agaaagacggg	cctccggggcc

FIG. 4B-2

2881	aaatgcgagt	gcattcccgagg	acggcaaggccc	accctggaaag	agcttacagac	ggtgccactcg
2941	gaaggccaca	ccctccctgtta	tggccacggaaac	ccccctcaacc	ggcagaaaact	ggacagaact
3001	aaacttctag	gctcgctcgcc	ctcccggtttc	gttccggctcc	cttgcgggtgg	tgttgggggtg
3061	gacagtgaca	ccatatggaa	cgagggtggcac	tccggggggcggcc	ggctgtggggc	
3121	tgcgtggtag	agctgggttt	caagggtggcc	acagggggagc	tgaaaaaatgg	cttgctgtgtg
3181	gtccggccccc	ctggacacca	tgcggagggag	aggcacggcc	tgggcttttg	ctacttcaac
3241	tccggggccg	tggcaggccaa	gcttctgcag	cagagggttga	gcgtgaggcaa	gatccctcatc
3301	gtggacttggg	acgtgcacca	tgggaaacggg	acccaggcagg	ctttctacag	cgacccttagc
3361	gtcctgtaca	tgtccctccca	ccgctacgac	gatggggaaact	tttcccaagg	cagcggggct
3421	cctgatgagg	tgggcacagg	gcccggcggtg	ggtttcaacg	tcaacacggc	tttcacccggc
3481	ggcctggacc	cccccatggg	agacgcgttag	tacttggcgg	ctttcagaac	ggtgttaatg
3541	ccgatcgcca	ggcaggtttgc	cccggatgtg	gtgctgggt	catcaggctt	cgtatgccgtg
3601	gagggccacc	ccacccctct	tgggggctac	aacctctccg	ccagatgttt	cgggttacctg
3661	acgaaggcgc	tgatgggccc	ggctggcggc	cggattgtcc	tggcccttcg	ggggaggccac
3721	gacctgaccg	ccatttgcga	cgccctcgaaa	gcatgtgttt	ctggccctgt	ggggaaaacgag
3781	cttgatcctc	tcccaggaaa	ggtttttacag	caaaaggccca	atgcaaaacgc	tgtccgttcc
3841	atggagaaag	tcatggagat	ccacaggcaag	tactggcgct	gcctgcacg	cacaacccccc
3901	acagcggggc	gttctctgtat	cgagggctcag	acttgcgaga	acgaagaaagg	cgagacggcc
3961	accgcctatgg	cctcgctgtc	cgtggacgtg	aaggcccgg	aaaaggagacc	agatgaggag
4021	cccatggaaag	aggagccgcc	cctgtagcac	tcccctcgaaag	ctgctgttttct	tttgcgtgtc
4081	tgtctctgtc	ttgaaagctca	gccaagaaac	tttcccgtgt	cacgcctgcf	tcccacccgtg
4141	gggctctctt	ggggcaccca	gggacaccca	gctgtcaaca	gccacgggaa	gcctttctgc
4201	cgcccaggccc	cacagggtctc	gagacgcaca	tgcacgcctg	ggcgtggcag	cctcacagggg
4261	aacacggggac	agacggccggc	gacggcggaga	cacacggaca	cgcggaaagcc	aaggcacactc
4321	tggcggttcc	cgcaaggggac	gcccgtggaaag	aaaggaggcct	gtggcaacac	gcggccgagc
4381	tgcccgaattc	agtgtacacg	aggcacagaa	aacaaatatac	aaagatctaa	taatacaaaa
4441	caaacttgtat	taaaactgtt	gcttaaaagg	tatttaccac	aactccacag	tctctgtgtta
4501	aaccactcga	ctcatctttt	agcttttttt	tttttaaag	aggacgtttt	ctacggctgt
4561	ggcccggccctc	tgtgaaaccat	agcgggtgtgc	gggggggggt	ctggcacccgg	gtgggggaca
4621	gagggacctt	taaaggaaac	aaaactggac	agaaaacaggaa	atgtgaggctg	ggggaggctgg
4681	cttgagtttc	tcaaaaggcca	tcggaaagatg	cggatttttg	cctttttttt	tattgtctctg

FIG. 4B-3

4741	gtggatttt	gtggctgggt	tttctgaaagt	tttccctgtg	gttcccgtg	ctgaggaaaca	atgccttaag	aaaaaacaaa
4801	caggagaat	cggggaca	gttgggaca	gcacggcac	cggccgtcat	gccaggcgag	cctggcagtg	ctggcaccgc
4861	gagctggcct	gacgcctcaa	gacggcctaa	cctgttttgg	cttattgtct	cggggggcc	ctccggctgca	aggggctgca
4921	gccccgggg	ccctgggg	ccctgggg	gttttgaagt	gttttgaagt	aatggggta	gttccaaaaa	gttccaaaaa
4981	agtggcaat	cccgtggag	gttttgaagt	ccaacaattt	ttaaacttgc	ttaaacttgc	ccaaagtgtt	ccaaagtgtt
5041	ctcacacgtc	acatacgatt	gaggcatctcc	atctggtcgt	gaggcatgtt	gaaggcatgtg	gtaggcacac	gtaggcacac
5101	ttgcagttt	acgtcggaa	tgctttttat	taaaaggcaag	tagcatgaag	ttagcatgaag	tattgtctaa	tattgtctaa
5161	attttagtta	taaaaataa	tatataatgt	taataatata	tccaatgtat	tccaatgtat	tccaaagctaa	tccaaagctaa
5221	gaaacttact	tgattttat	gaaatcttga	taaaatattt	ataatgcatt	ataatgcatt	tatagaaaaa	tatagaaaaa
5281	gtatataat	atataaaaa	tgaatggcaga	ttgcggaaat	ccctggaaat	ggatggcttg	ggatggcttg	ggatggcttg
5341	tgaatttgc	ctcaagggtgc	ttatggaaag	ggatccgtat	tgattggaaat	tcatgttttc	tcatgttttc	tcatgttttc
5401	tcaaggctcca	gattggcttag	atttcagatc	gccaacacat	tcgcccacatgg	gcaactaccc	ctccaaaggct	ctccaaaggct
5461	tacaagtttg	tactttcat	ttaattttat	tctaacagaa	cgctcccggt	ctgtttagttt	ctgtttagttt	ctgtttagttt
5521	tcatgcacat	atgtaccta	tgagttttta	tagcaaaagaa	tataaatttg	ctgtttagttt	ctgtttagttt	ctgtttagttt
5561	ttgtatgaat	ttttcacaa	aaagatccgt	aataaggcatt	gttttatgaa	ttttacattt	ttttacattt	ttttacattt
5641	ttcctcacca	tttagcaatt	ttccgaatgg	taataatgtc	taaatttttt	tcccttctga	tcccttctga	tcccttctga
5701	attcttgctt	gtacatttt	tttaccttt	caaaggttt	taatttttt	tgtttttatt	tgtttttatt	tgtttttatt
5761	tttgtacgt	gagttttctg	cagcgtacag	aattttgtct	gtcagattct	attttcagaa	ctttcctgggt	ctttcctgggt
5821	agtggaggg	gggaccgttag	gtgggtgttt	gtcttttcc	gtgggtgttt	taactttcaa	cactagttagt	cactagttagt
5881	ctgtccctagg	agctgtataa	agaaggccag	gggctctttt	taactttcaa	acgattttgt	ctttcctgggt	ctttcctgggt
5941	attacgggg	gtgggggg	gtgggtgttt	ttttttttcc	ttttttttcc	ttttttttcc	ttttttttcc	ttttttttcc
6001	gccccggccac	cctgggggg	ttgggggg	ttgggggg	ttgggggg	cgggggggg	cgggggggg	cgggggggg
6061	gtttaaactt	ctctgaccac	atcgtcaggaa	tagaatttcta	acttgagttt	tcaactttcaa	tgggggggg	tgggggggg
6121	ttttgaggcat	gtcaggcaatg	catggggcac	acgtgggct	cttttacccac	tttttacccac	tttttacccac	tttttacccac
6181	ccactgcggc	cacgtggcca	gccctgggatt	ttggaggctg	ttggaggctg	ttggaggctg	ttggaggctg	ttggaggctg
6241	acccttggtt	cctgggttgc	ctgcagggg	ggatcacttgc	ttactttttcc	ttactttttcc	ttactttttcc	ttactttttcc
6301	tttactttt	ttcttttca	cagtaactga	cagtcaatgt	tttacttttcc	tttacttttcc	tttacttttcc	tttacttttcc
6361	agcacatgaa	gccaccagg	tcaattccaaa	gtgtatatttgc	tttacttttcc	tttacttttcc	tttacttttcc	tttacttttcc
6421	agttcagaca	caccgtgttc	aggagggacc	cagagccgag	tttacttttcc	tttacttttcc	tttacttttcc	tttacttttcc
6481	tacagggttag	cttctgaaat	taactcaaac	ttttgaccaa	tttacttttcc	tttacttttcc	tttacttttcc	tttacttttcc
6541	tcacttggtc	actgggtgtc	tgtatggtcag	ctctgaggaca	tttacttttcc	tttacttttcc	tttacttttcc	tttacttttcc

FIG. 4B-4

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FIG. 4B-5

LRQGGTILTGKFMSTSSSIPGCLLGVALEGDGSPHIGHASLLLQHVLL
 LEQARQQSTLIAVPLHGQSPLVTGERVATSMRITVGKLERRPLSRTQSSPLPQSPQAL
 QQLVMQQQHQQQFLEKQKQQQLQLGKILTGTGEILPRQPTTHPEETEEELTEQQEVLLGE
 GALTMPREGSTESESTQEDLEEEDEEEDGEEDCIQVKDEEGESGAEEGPDLEEPGA
 GYKKLFLFDAQPLQPLQVYQAPLSLATVPHQALGRTQSSPAAPGGMKSPPDQPVKHLLFT
 TGVVYDTFTMLKHQCMCGNTHVHPEHAGRIQSISIWSRLQETGLLSKcerIRGRKATLDEI
 QTVHSEYIHTFLLYGTSPLNRQKIDSKKLGPISQRKMYAVLPCGGIGVDSDTVNEMHSS
 SAVRMAVGCLLELAFKVAAGELKINGFAITRPPGHHAEESTAMGFCFFNSVAITAKLLQ
 QKLNVGKVLIIVWDIHHGNGTQQAFYNDPSVLYISLHRYDNGMFFPGSGAPEEVGGGP
 GVGYNVNVAWTGGVDPPIGDVEYLTAFRRTVVMPIAHEFSPDVVTLLVSAGFDAVEGHLSP
 LGGSVTARCFCGHILTRQIMTLAGGRVVLIALEGHDLTIAICDAEACVSSLVELQPL
 DELVQQKPNINAVATLERYVIETQSKHWSVCVQRFKAAGLGRSLREAQAGTEEAEATVSA
 MALLSVGAAEQQAAAAREHSPRPAEEPMEQEPAL (SEQ ID NO: 9)

FIG. 5A

FIG. 5B-1

1 ccctggcca ggttggca cgaccggca ctgaccggca agttcatgag cacatccctct attccctggct
61 gcctgtgg cgtggactg gaggccgacg gtagccccc cggccatgcc tccctgtgc
121 agcatgtgt gtgtgtgg cccactagtg acgggtggc acgaggatcac ctcattgtgt gtgcactcc
181 acggcgagtcc cccactagtg acgggtggc acgaggatcac ctcattgtgt gtgcactcc
241 agctccccgg gcatcggccc ctcaatggca atgcaacaac agcaccagca cagcatgggg acggtaggca
301 aggccctgca gcaggctggc aagatccca ccaaggacagg gttccctggag aaggagaagg
361 aggaggactt acaggctggc aagatccca ccaaggacagg gtagggaggc tgacggaggc aaggaggcca
421 ccacccaccc tgaggagaca gaggaggactt acaggaggactt tgaggaggc tgaggaggc ttgtgtgggg
481 aggaggccctt gaccatggcc cggggggctt ccacaggagg acttccatggcc aaggaggaggc
541 tggaggaga ggacggaaa gaggatgggg aggaggaggc gatggatgggg
601 acggaggagg cgaggatgtgt gctgggggg gggccggactt ggatgggggg
661 aaaaaaaaaact ttctcagat gcccaggccgc tgcaatgtttt ggtgtgtgt
721 tcaggctggc cacttgtggc accaggccc tggccgtac ccaggccccc
781 ctgggggcat gaaggagccc ccagaccagg ccgtcaagca cctcttcacc
841 tctacggacac gttcatgtcta aaggaccagg gcatgtggg
gaacacacac gtgcacccctg
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FIG. 5B

FIG. 5B-2

FIG. 5B-1

901 agcatgctgg ccggatccag agcatctggt cccggcttgca ggagacaggc ctgcatttagca
 961 agtggagcg gatccggagt cgcaaaggcca cgcttagatga gatccagaca gtgcactctg
 1021 aataccacac cctgctctac ggaccaggtc ccctcaaccg gcaagaaggcta gacagaaggca
 1081 agttgctcg ccccatcagg cagaaggatgt atgctgtgtgc gccttgtgg ggcatacgggg
 1141 tggacacagtga caccggtgg aatggatgc actccctccag tgctgtgcgt atggcagtgg
 1201 gctggcctgct ggaggctggcc ttcaagggtgg ctgcaggaga gctcaagaat ggatttgccca
 1261 tcattccggcc cccaggacac cacgggggg aatccacagg cacgggattc tgcttctca
 1321 actctgttagc catcaccgca aaactccctac agcagaaggat gaacgtgggg aaggccctca
 1381 tcgtggactg ggacattcac catggcaatg gcacccaggca ggcgttctat aatgaccctt
 1441 ctgtgctcta catctctctg catcgctatg acaacggaa ttcttttcca ggctctgggg
 1501 ctccctgaaga ggttgggtgg gggaccaggcg tgggttacaa tgtgaacgtg gcatggacag
 1561 gaggtgtggaa cccccccatt ggagacgtgg agtaccttac agccttccagg acagtgggtga
 1621 tgcccattgtc ccacggatgtc tccacctgttgc tgggttggct actctgttcac
 1681 ttgaaggaca tctgtctct ctgggtggct tgggttctgt gctggccatgt ttgtggccact
 1741 tgaccaggca gctgtatgacc ctggcagggg gcccgggtgg gctggccctg gaggaggcc
 1801 atgacttgtac cgccatctgt gatgcctctg aggcttgtgt ctcggctctg ctcagtgttag
 1861 agtgcagcc ctggatgag gcagtcttgc agcaaaaggcc caacatcaac gcagtggcca
 1921 cgcttagagaa agtcatcgag atccaggagca aacactggag ctgtgtgcag aagttcggcc
 1981 ctggtctggg ccggtccctg cgagaggccc aagcaggatga ggccggaggag gccgagactg
 2041 tgaggccat ggccttgcgt tgggtgggg cggaggaggcc cagggtgcg gcagccccgg
 2101 aacacagccc caggccggca gaggaggccca tggaggcaggaa gcctggccctg tgacgccccgg
 2161 gccccatcc ctctcggtt caccattgtt attttttta taaaaacaaa
 2221 aagtccacaca ttcc (SEQ ID No:10)

FIG. 5B-2

1 mtstgqdsstt trqrrsrqnp qspqqdssvt skrnikkav prsipnlaev kkkkmkkkg
 61 gameedlivg lqgmdlnlea ealagtglvl deqlnefhcl wddsfpege rlhaikeqli
 121 qeglldrcvs fcarfaekee lmlvhslleyi dlmettqym egelrvladt ydsvvlyhps
 181 yscaclasgs vrlvdavlg aeirngmai rppghaqhs lndgycmfnh vavaaryaqq
 241 khriirrliiv dwdvhgqgt qftfdqdpsv lyfshihryeq grfwphlkas nwsttggqg
 301 qgytinwpwn qvgmrddadyi aaflhvllpv alefqpqqlvl vaagfdalqg dpkgemaatp
 361 agfaqlthll mglaggkll sleggynira laegvsash t11gdpcpm1 espgapcrsa
 421 qasvsclea lepfwevlvr stetverdnm eednveeese epwepvvlp iltwpv1qsr
 481 tg1vyydqnnm nhcnlwdsnh pevpqrilri morleelgia grcltitprp ateaelltch
 541 saeyvghlra tekmtrelh ressnfdsiy icpstfacaq latgaacr1v eavisgevin
 601 gaavvrrppgh haeqdaacgf cffnsavava rhaqtisgha 1rl1vdwdv hhngtqnmf
 661 eddpsvlyvs lhrydhgtff pmgdegassq igrgraagtgtft vnrawngprm gdaddylaawh
 721 rlvipliayef npelvvsag fdaargdplg gcqvspegya hlthllmgla sgrillileg
 781 gynltsises maactrsilg dppplltlpr pplsgalasi tetiqvhrry wrs1rvmkve
 841 dregpsssk1 vtkkapqpk prlaermtrr ekkvleagmg kvtsasfge stpgqtnset
 901 avvalcqdcq seaatggatl aqtiseaaig gam1gqtte eavggatpdq ttseetvga
 961 ildqtttseda vggatigqt seeavggatl aqtiseaaame gat1dqtts eapggtel1q
 1021 tpllassstdhq tpptspvqgt tpqispstli gs1rttleg5 esqgasesqa pgeen11gea
 1081 aggqdmadm lmqgsrg1td qaiifyavtpl pwcpfhlavc pipaagldvt apcgdcgtiq
 1141 enwvc1scyq vycgryingh mlqhhgnsgh plvlsyid1s awcyyycqayv hhqall1dvkn
 1201 iahqnkfged mphph (SEQ ID: 11)

FIG. 6A

FIG. 6B-1

1 gggcaagtccc ctgaggaggcg gggctggttg aaacgcctagg
61 aagaaccgcg gcagggggcca agcctccctca actatgcacct
121 acaaccaggc agcgaagaag taggcagaac ccccagtcgc
181 acttcgaagc gaaatatattaa aaaggaggcc gttcccccgct
241 gtaaaagaaga aaggcaaataat gaagaaggctc ggccaaagcaa
301 ggactgcaag ggatggatct gaacctcgag gctgaaggcac
361 ttggatgagc agttaaatga attccatcgc ctctggatg acagcttccc
421 gagcggctcc atgccatcaa gtagcaactg atccaggagg gcctccta
481 tcctttcagg cccgggttgc tggaaaaggaa gagctgtatgt tggttccacag
cctagaataat

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FIG. 6B

FIG. 6B-2

FIG. 6B-3

FIG. 6B-1

541	attgaccctga	tggaaaacaac	ccagtttatct	gcataacttc	aatgtacatg	aactccgtgt	ccttagcagac
601	acccacgact	cagttttatct	gcattccgaaac	tcatactcct	gtgcctgcct	ggcctcaggc	catggccat
661	tctgtcctca	ggctggtgg	tgcggtcctg	ggggctgaga	tccggaaacgg	catgggg	catgttcaac
721	attaggcctc	ctggacatca	cgcggcggcac	agtcttatgg	atggctattg	atggctatgg	catgttcaac
781	cacgtggctg	tggcagccc	ctatgctcaa	cagaaacacc	gcacccggag	ggtccttata	gttccttata
841	gttagattgg	atgtgaccca	cggtaaggaa	acacagttca	ccttcgacca	ggaccccagt	gttccttata
901	gtcctctatt	tctccatcca	ccgctacgag	caggttaggt	tctggccca	cctgaaggcc	gttccttata
961	tctaactgg	ccaccacagg	tttcgccaa	ggccaaggat	ataccatcaa	tgtgccttgg	gttccttata
1021	aaccagggt	ggatcgaaa	tgctgactac	attgtgttt	tccctgcacgt	cctgctgcca	gttccttata
1081	gtcgccctcg	agctccagcc	tcagctggtc	ctggggccgg	ctggatttga	tgcctgcac	gttccttata
1141	ggggaccca	ggccggcact	ccggcagggt	tcgcccagggt	aacccacctg	tgcccttgg	gttccttata
1201	ctcatggtc	tggcaggagg	caagctgatc	ctgtctctgg	agggtggcta	caacccggc	gttccttata
1261	gccctggctg	aaggcgtcag	tgcttcgctc	cacaccctc	tggagagaccc	ttggcccatgt	gttccttata
1321	ccggagtcac	ctgggtcccc	ctggccggaggc	gccccaggctt	cagtttccctg	tgctctggaa	gttccttata
1381	gccttgtggc	ccttctggaa	ggttcttgg	agatcaactg	agaccgtgg	gagggacaac	gttccttata
1441	atggaggagg	acaatgtaga	ggagggcggag	gaggaaggac	cctgggagcc	ccctgtgtctc	gttccttata
1501	ccaatccctga	calggccagt	gctacagtct	cgcacagggg	ttgtctatga	ccaaaaatatg	gttccttata
1561	atgaatctact	gcaacttgtt	ggacacggccac	caccctgagg	tacccctgg	catcttgcgg	gttccttata
1621	atcatgtgcc	gtctggggaa	gctggggctt	gccggggcgt	gccttcacccct	gacacgggg	gttccttata
1681	cctgcccacag	aggctgagct	gctcacctgt	cazagtgctg	agtacgtgg	tcatctccgg	gttccttata
1741	gccacagaga	aaatggaaac	ccggggagctg	caccgtgaga	gttccaaacct	tgactccatc	gttccttata
1801	tatatctgcc	ccagttacct	cgccctgtgca	cagcttggca	ctggcgccctg	ctggcgccctg	gttccttata
1861	gtggaggctg	tgctctcagg	agagggtccctg	aatgggtctg	ctgtgggtcg	tccccaggaa	gttccttata
1921	caccacggcg	agcaggatgc	agcttgcgt	tttigcttt	tcaactctgt	ggctgttgct	gttccttata
1981	gctcggccatg	cccagactat	cagtggcat	gccttacgg	tcctgtattgt	ggatgggat	gttccttata
2041	gtccacccacg	gtaatggaaac	tcaggcacatg	ttttagggat	accccagggt	gcttatatgt	gttccttata
2101	tccctgcacc	gctatgtaca	tggcaccttc	ttttccatgg	ggggatgggg	ggggatgggg	gttccttata
2161	cagatcgccc	gggcgggg	cacaggcttc	accgtcaacg	tggcatggaa	tggcatggaa	gttccttata
2221	atgggtgatg	ctgactacat	agctggctgg	catcgccctgg	tgcttttgcgt	tgcttttgcgt	gttccttata
2281	tttaaaaaa	aactggggat	gggttttgcgt	gggttttgcgt	gggttttgcgt	gggttttgcgt	gttccttata

FIG. 6B-2

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2341	gggggtgcc	agggtcacc	tgagggttat	gcccacccctca	cccaccttca	ccccccctgttt	gatggggcctt
2401	ggcaggggcc	gcatttatcct	tatcctagag	ggttggctata	acctgacatc	cacttcgacatc	catctcgag
2461	tccatggctg	cctggcactcg	ctccctcctt	ggagggccac	cacccCtgct	gaccCCTgcca	gaccCCTgcca
2521	ggggcccac	tatggggc	cctggcctca	atcactgaga	ccatccaagt	ccatcgccaga	cagttctaag
2581	tactggcga	gcttacgggt	catgaaggca	gaagacagag	aaggaccctc	caggaccctc	cagttctaag
2641	ttggtcacca	agaaggccacc	ccaaaccagcc	aaaccttaggt	tagctgagcg	gatgaccaca	gatgaccaca
2701	cgagaaaaaga	aggttcttgg	agcaggcatg	ggggaaagtca	cctcggcatc	atttggggaa	atttggggaa
2761	gagtcactc	caggccagac	taactcagag	acagctgtgg	tggccctcac	tcaggaccag	tcaggaccag
2821	ccctcagg	cagccacagg	gggggccact	ctggcccaga	ccatTTCTGA	ggcaggccatt	ggcaggccatt
2881	ggggggcca	tgctggccca	gaccacctca	gaggggaggaa	tgctggggc	cactccggac	cactccggac
2941	cagaccacct	cagaggagac	tgtggggaggaa	gcccattctgg	accagaccac	ctcagaggat	ctcagaggat
3001	gctgttggg	gagccacgct	ggggccagact	accctcagg	aggctgtgg	aggagcttgg	aggagcttgg
3061	ctggcccaga	ccatctcggg	ggcagccatg	gaggggaggca	cactggacca	gactacgtca	gactacgtca
3121	gaggaggctc	cagggggac	cagactgtatc	caaaactcc	tagcctcgag	cacagaccac	cacagaccac
3181	cagaccccc	caacccctacc	tgtgcaggga	actacacccc	agatatactcc	cagtacactg	cagtacactg
3241	attggggatc	tcaggacctt	ggagctaggc	agcgaacctc	agggggccctc	agaatatctc	agaatatctc
3301	gccccaggag	aggagaacct	accaggagag	gcagctggag	gtcaggacat	ggctgtattcg	ggctgtattcg
3361	atgctgacgc	agggatctag	gggcctcact	tatcaggcca	tatTTATGC	tttgcaccca	tttgcaccca
3421	ctggccctgg	gttcccattc	gggtggcagta	tgccccatac	ctgcagcagg	ccttagacgtg	ccttagacgtg
3481	acccaaacctt	gtggggactg	ttggacaatc	caagagaact	gggtgtgtct	ctctttgttat	ctctttgttat
3541	caggtctacc	gtggtgcgtta	catcaatggc	cacatgtcc	aacaccatgg	aaattctgga	aaattctgga
3601	cacccgctgg	tcctcagcca	catcgacctg	tcaggcctgg	gttactactg	tcaggccctat	tcaggccctat
3661	gtcccacacc	aggctctcct	agatgtgaag	aacatcgccc	accagaacaa	gtttttggggag	gtttttggggag
3721	gatatggccc	acccacacta	agcccaggaa	tacgggtccct	cttcaccttc	tgaggcccac	ctccccactgc
3781	gatagaccag	ttccaggctg	ttccaggctg	taccttggat	gaggggttagc	tatttaagtg	ttaatacttt
3841	atccccatcct	gaataatcctt	tgcaactccc	caagagtgt	ttcccccact	catcgcccgc	tttgggggca
3901	taagagaact	gcgacgattna	atgtggatc	tcccctgtcc	tcccctgtcc	cagctcagg	gggggggggg
3961	ccactactcc	agccccagaag	gaaagggggg	tttttttttttt	tttttttttttt	ggggccaaagg	ggggccaaagg
4021	tcatgaggat	aacattggcg	gggggggggg	tttttttttttt	tttttttttttt	tttttttttttt	tttttttttttt
4081	taataaagta	caagctgtt	(SEQ ID NO: 12)				

FIG. 6B-3

1 md1rvggqrpp veppept11 alqrpqrlhh hlflag1qqq rsvepmr1sm dtppmpe1qvg
 61 pqeqlrq11 hkdkskrsav assvvkqkla evilkqqaa lertvhpnsp gipyrt1epi
 121 etegatrsml ssflppvpsi psdppewfpl rktvsepnlk lrykpksle rrknpllrke
 181 sappslrrrp aetlgdssps ssstpasgcs spndsehgpn pilgdsdrrt hpt1gprgpi
 241 lgsphtplf1 phglepeagg clpsrlqpl1 1ldpsgshap 11tvpg1gp1 pfhfaqsint
 301 terlsgsg1h wplsrtsep lppsataapp pgpmqrpleq lkthvqvikr sakpsekpr1
 361 rqipsaed1e tdggggggvv ddglehrelg hgapearrgpa plqqhpqvi weqqrlagrl
 421 prgstgdcv1 lplaggghrp lsraqsspaa pasisapepa sqarvlsse tpartlpflt
 481 gliydsmlk hqcschgdn1sr hpehagriqs iwsrlqerg1 rsqceclrgr kasieelqsv
 541 hserhv1lyg tnpl1srlk1d ngklagiiaq rmfem1pcgg vgydtdtiw elhssnaarw
 601 aagsvtndlaf kvasrelkng favvrppghh adhsstamgfc ffnsvaiacr qlqqqskask
 661 askilivdwd vhngngtqqt fyqdpsvlyi slhrhddgnf fpgsgavdev gagsgegfnv
 721 nvawagg1dp pmgdpeylaa frivvmpiar efspl1vls agfdaaeghp aplggvhvs
 781 kcfgymtqq1 mnlaggav1 alleghdita icdaseacva allgnrvdpl seegwkqk1p1
 841 pqchp1sggr dpgaq (SEQ ID NO:13)

FIG. 7A

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FIG. 7B-1

FIG. 7B-2

FIG. 7B

FIG. 7B-1

1381 tggggccatgg gcagccccgag acaggcaggga acaggcaggca
 1441 tgctcttggaa acaggcaggca tctggcccaag ggtggggcacc
 1501 tgctgcttc tctggcccaag ggtggggcacc ggcccggaggc
 1561 cggcacctgc ctcaactgtca gcccggaggc ctggccaggca
 1621 cagagaccc cgcagggacc ctggccctca ccacagggt
 1681 tgaaggacca gttgtccctgc ggtgacaaca gcaggcaccc
 1741 agagcatctg gtcccccggctg caggaggggg ggcctcgag
 1801 gccggaaaggc ctcccctggaa gagctgcagg cggctcaaac
 1861 acggcaccaa cccgctcagg cggctcaaac tggacaacgg
 1921 cacaggat gtttgaggatg ctggccctgtg gtggggttgg
 1981 ggaatgagct tcattccLcc aatgcaggccc gctggggccg
 2041 ctttcaaagt ggcttctgt gaggctaaga atggtttcgc
 2101 accatgcaga tcattcaaca gcatgggct tctgtcttctt
 2161 gcccggcagct gcaacaggcag agcaaggcca gcaaggccc
 2221 gggacgtgca ccatggcaac ggcacccagg aaaccttcta
 2281 acatccct gcatcgccat gacgacggca acttctccc
 2341 aggttagggc tggcagcggt gggggatctt ggttcaatgt
 2401 acccccccatt gatggatctt ggttacccgg ctgctttcag
 2461 cccggaggtt ctctccagac ttagtccctgg ttttggatac
 2521 accggggcccc acIgggtggc taccatgtt ctggccaaatg
 2581 aactgtgaa cctggcaggaa cttggcaggaa gggcggatgg
 2641 cagccatctg tgacgcctct gggccctgtg aaaaacaaac
 2701 cccttcaga aaaaaggctgg aaaaaggctgg aaaaacaaac
 2761 gccgtgatcc ggggtgcacag taaaataactgg ggctgcatgc
 2821 gactccctgg tgcccttaggt gccaggggct gacaaaagaag
 2881 ctggcggtccc tctgtggg catccctggg gaaagataggc
 2941 gaggaaagaac ctatgaatct ctaaggctct ggaaccatct
 3001 ggacctgtttt ctttcttaac ccctggcaat agccccatt
 3061 gtggcaagg agttggaaacc agagaacagc ctggccctgctt
 3121 gtgagaaaaat c (SEQ ID NO: 14)

FIG. 7B-2

1 meepeepads gqs1vpwyiy speyvsmcds lakipkrasm vhslieayal hkqmrvkpk
 61 vasneematf htdaylqh1q kvsqegdddh pdsieyglgy dcpatcgifd yaaaggati
 121 taaqcldgm ckvainwsgg whhakdeas gfcy1ndavl gilrrrkfe rillyvdldlh
 181 hggdvedafs ftskvmtvsl nkfspgfpp tgdvsvdvg1g kgryysvnvp iqdgigdeky
 241 yqicesvlke vyqafnpkav v1qlgadtia gdpmcsfnmt pvgigkclky ilqwqlatli
 301 1gggynlan tarcwtyltg vilgktlsse ipdbefftay gpdyvleitp scrpdrneph
 361 riqqilnyik gnllkhvv (SEQ ID NO:15)

FIG. 8A

1 gaaattcggc acgagctcgat gcgcgaattcg gcacgaggAAC ggttttaAGC ggaagatggA
 61 ggagccggag gaaccgggg acagtggca gtcgctggC ccggtttata tctatagtcc
 121 cggatgttc agtatgttg actccctggC caagatcccc aaacggggca gtatggtgcA
 181 ttctttgatt gaaggcatatg cactgcataa gcaaattggG atagttaaAGC ctaaaagtggC
 241 ctccatggag gagatggcca ctttccacac tgatgtttat ctgcggcatc tccagaaggT
 301 cagccaaagg ggccatgtg atcatccggA ctccatggAA ctccatggA tatggcttag gttatgactg
 361 cccagccact gaagggatat ttgactatgc agcagctata aactggctg gggggggcta cgatcacagg
 421 tgcccaatgc ctgattgacg gaatgtgcaA agtagcaatc aactggctg gaggggtggca
 481 tcatgcaaaAg aaagatgaaAg catctggTTT ttgagcgttat tccctacgtg gattcggatc aatgatgtcg tcctggaaAT
 541 attacgatttgcgacggcat tcaagtttcac ttgatgtttcc ctcacaaatgc atgaccgtgt ccctgcacAA
 601 agatgggtttaa gaagacgcat tcaagtttcac ttgatgtttcc ctcacaaatgc atgaccgtgt ccctgcacAA
 661 attctccca ggatTTTCC agtgtaaatg tggccatcca ggatggcata caagatgaaa aatattacca
 721 acggtactac agtgtactaa aggaagtata ccaaggcttt aatcccAAAG cagttgttt
 781 gatctgcgaa agtgtactaa aggaagtata ccaaggcttt aatcccAAAG cagttgttt
 841 acagctggga gccgacacAA tagctggga tcccattgtgc tccttaaca tgactccAGT
 901 gggaaattggc aagtgtctca agtacatccc tcaatggcag ttggcaaacAC tcatttggGG
 961 aggaggaggc tataaccttgc ccaacacggc tcgatgtgg acatacttgc cgggggtcat
 1021 cctaggaaaa acactatctc cttagatccc agatcatgg ttttccacAG catatggtcc
 1081 tgattatgtg ctggaaatca cggcaaggCTG cggccacAGC cgcaatgtgc cccacccGAAT
 1141 ccaacaaatc ctcacactaca tcaaaggAAA tctgaaggcat gtggcttagt tgacagaaAG
 1201 agatcaggTT tccaggAGCTG agaggTggTg cctataatgA agacagcgtg ttatgtcaAG
 1261 cagTTgrgg aatttggac tgcaaggAAA atttggaaAGA aattacttcc tgaaaatttC
 1321 caaggggcat caagtggcag ctggcttccCT ggggtggaaAGA ggcaggccacc ccagagtcc
 1381 caactggacc tagggaaAGA agagatarc ccacattaa agttcttatt taaaaaaacAA
 1441 cacacacaca aatgaaattt ttatcttgc aaaattttt ttaaggcaat tggggggGG
 1501 agtatttaa tcatcttaaa tggaaacagat cagaaggctgg atgaggagcAG tcaccaggTT
 1561 gtagggcagg aggaggctga caggcagggn tngggcctn ggaccancca ngtggagccc
 1621 tggaggagaaan ggtactgtac ngcagactgg gagg (SEQ ID NO:16)

FIG. 8B

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lipo MM1 AS1 100nM

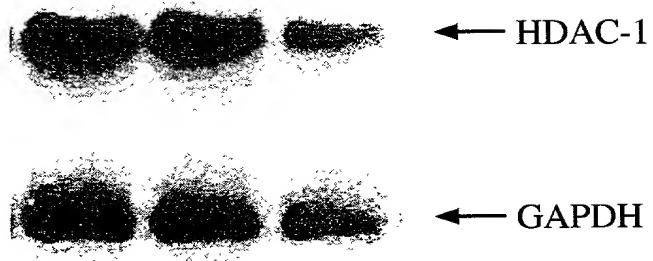


FIG. 9A

lipo MM AS 100nM

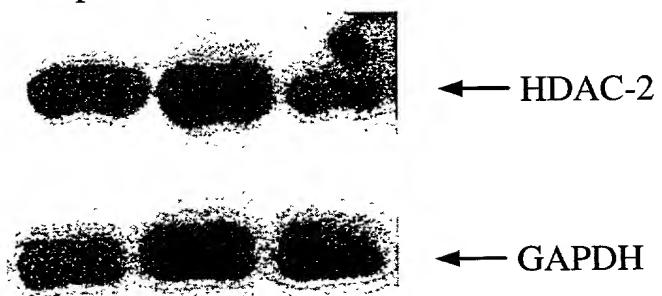


FIG. 9B

lipo AS MM100nM

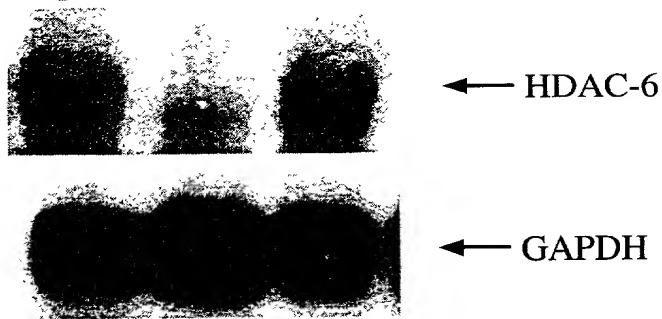


FIG. 9C

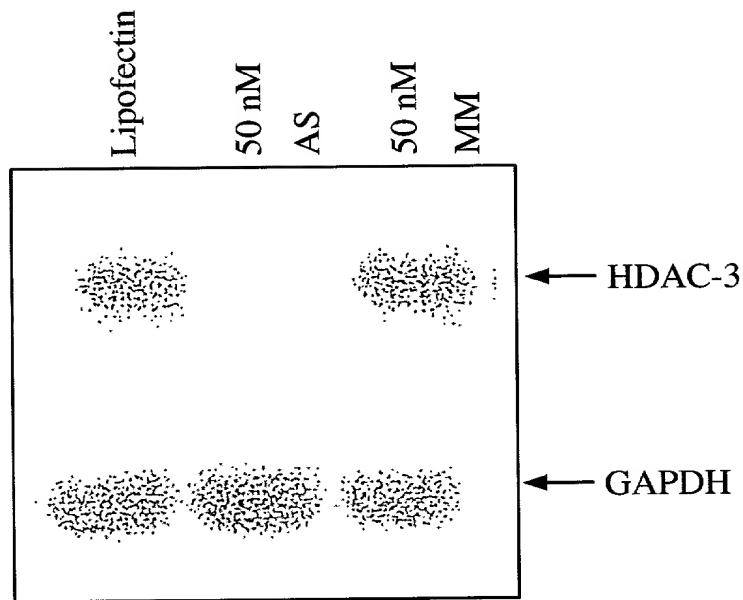


FIG. 9D

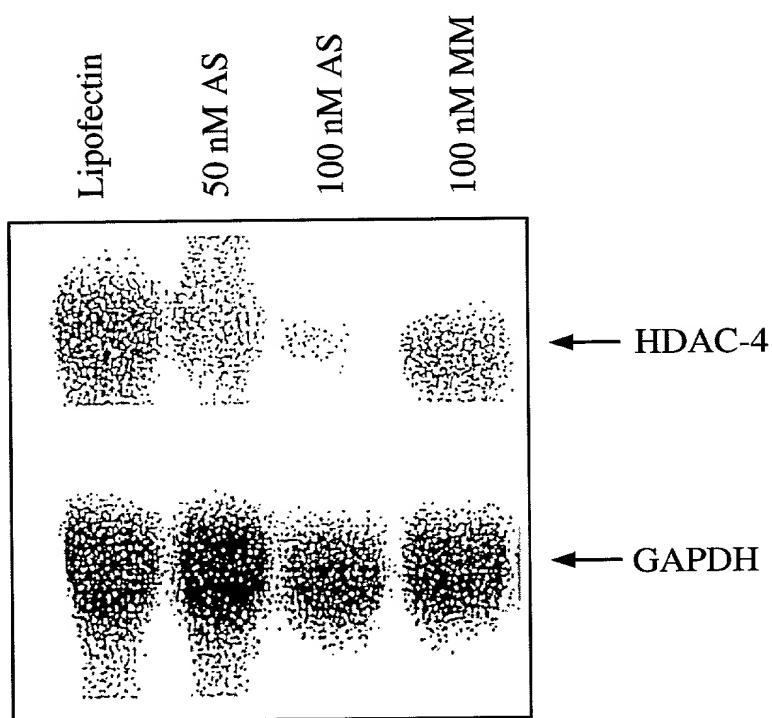


FIG. 9E

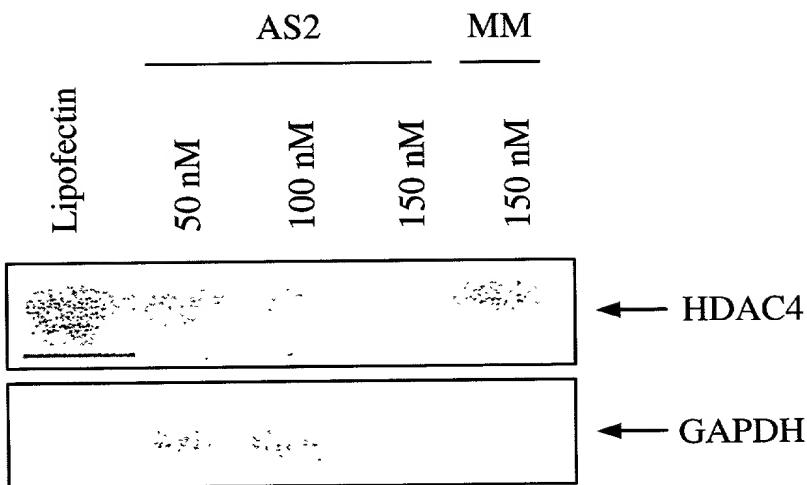


FIG. 9F

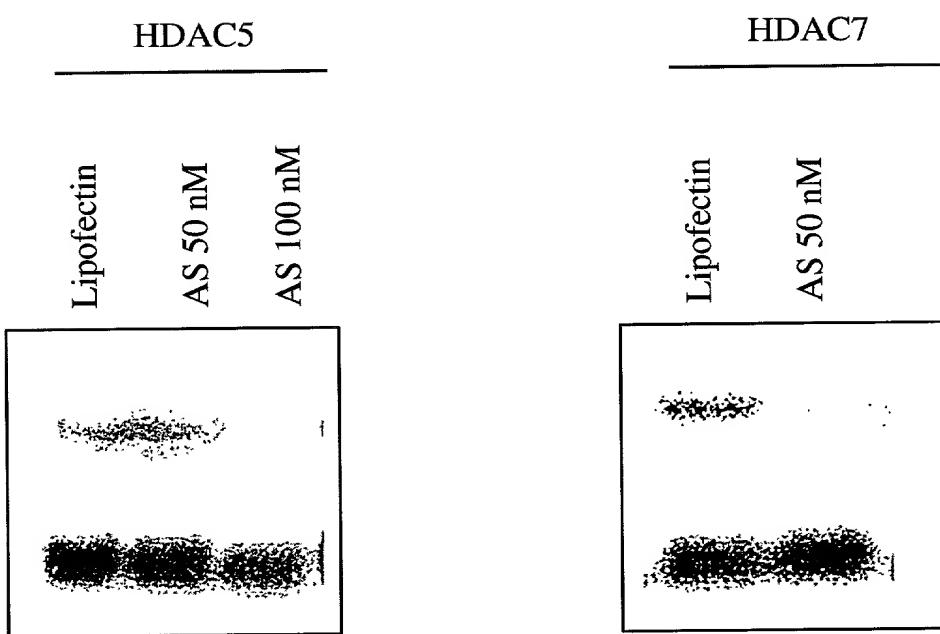


FIG. 9G

FIG. 9H

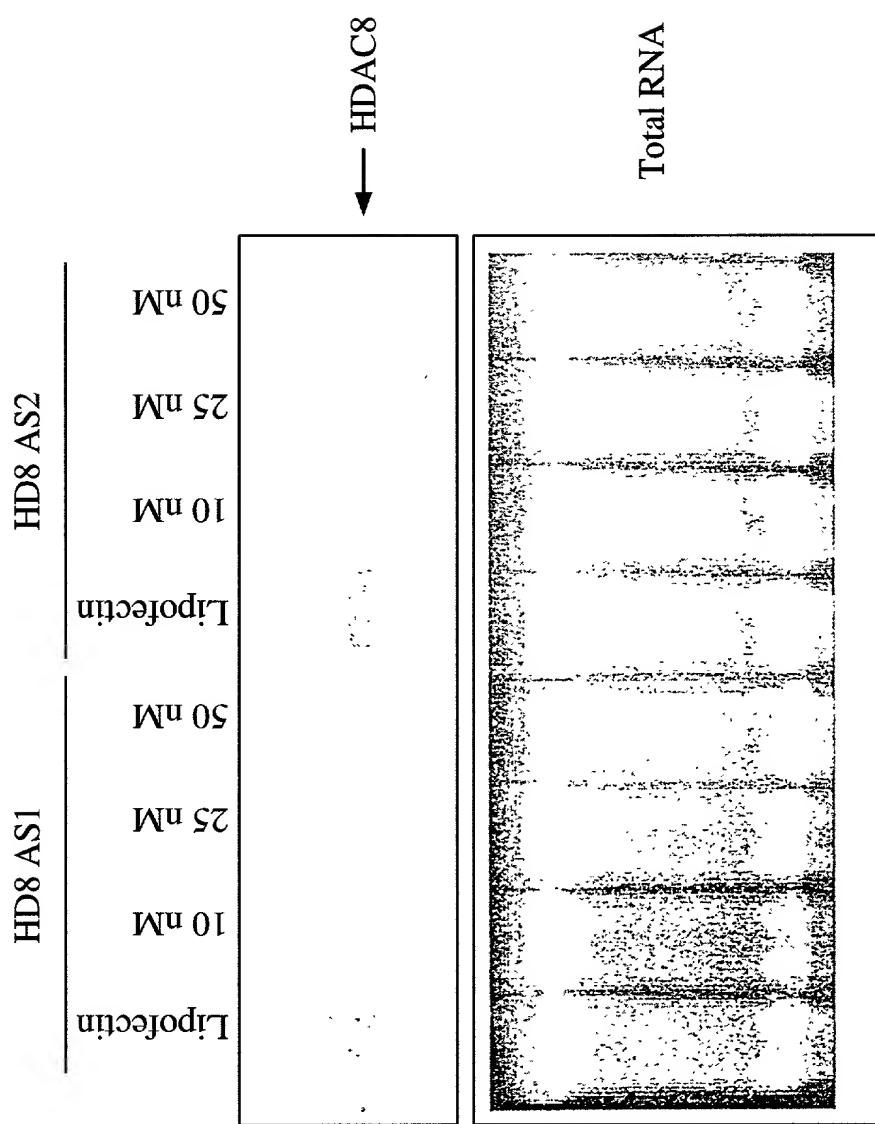
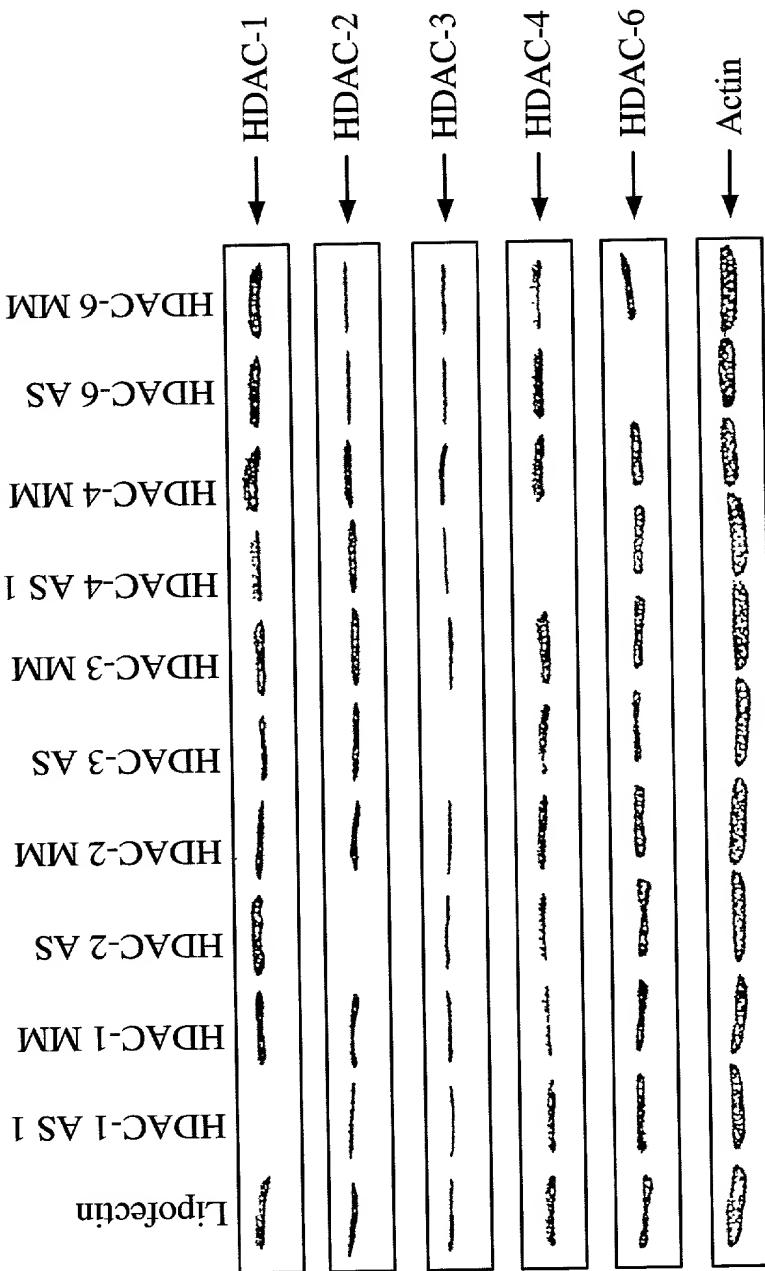


FIG. 91

Lipofectin HDAC-1 AS 1 HDAC-1 MM 1 HDAC-2 AS HDAC-2 MM HDAC-3 AS HDAC-3 MM HDAC-4 AS 1 HDAC-4 MM 1 HDAC-5 AS HDAC-5 MM HDAC-6 AS HDAC-6 MM



AS = Antisense
MM = Mismatch
NS = Non-specific control
3 day treatment
Oligonucleotide cone – 50nM

FIG. 10A

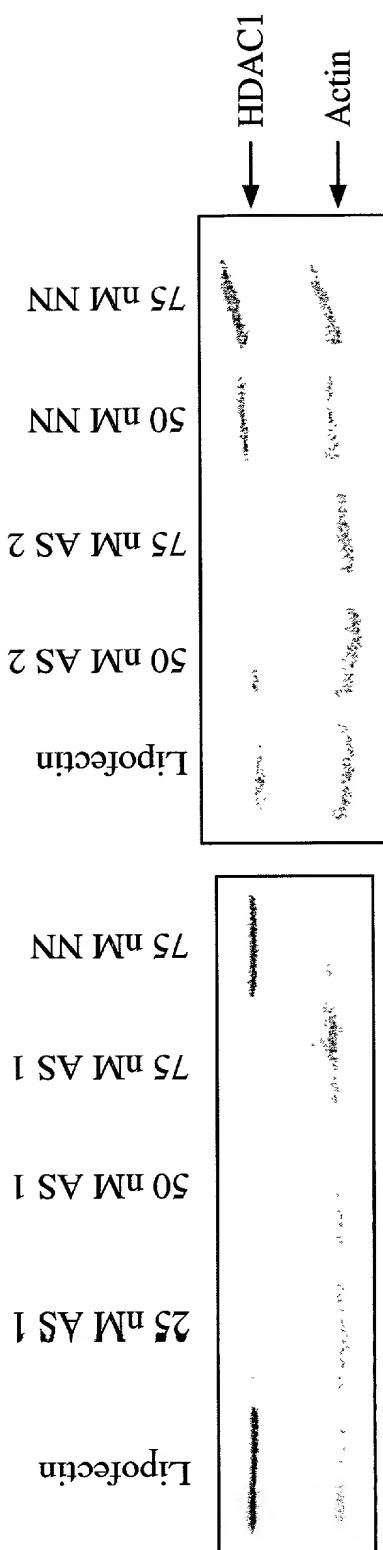


FIG. 10B

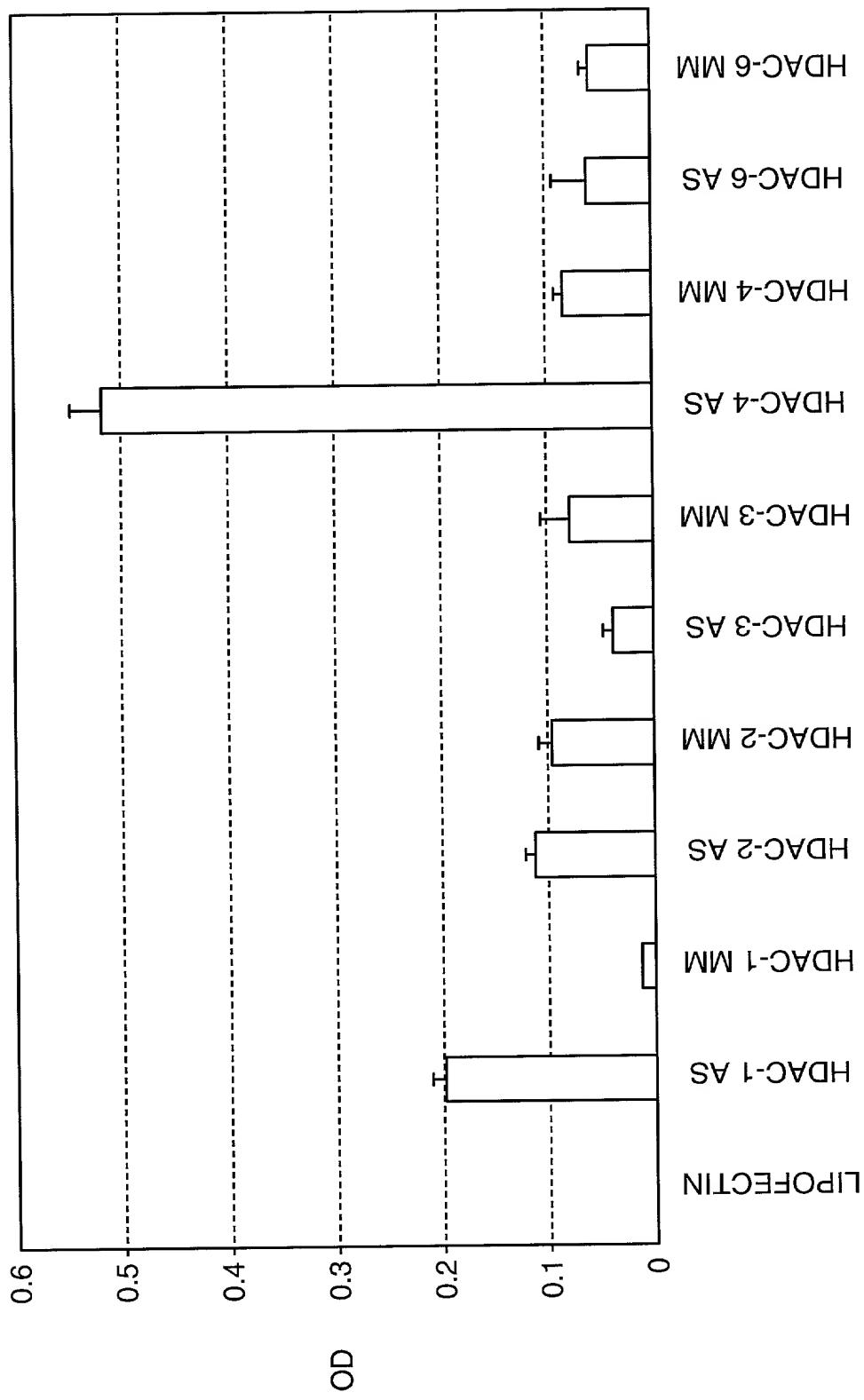


FIG. 11

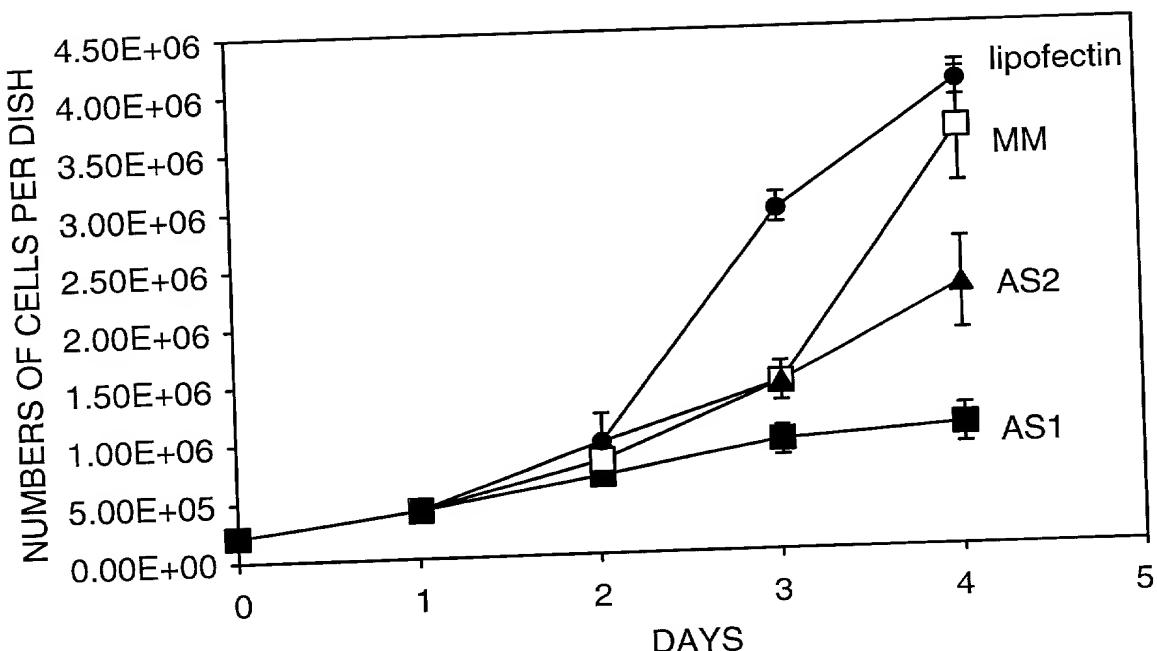


FIG. 12A

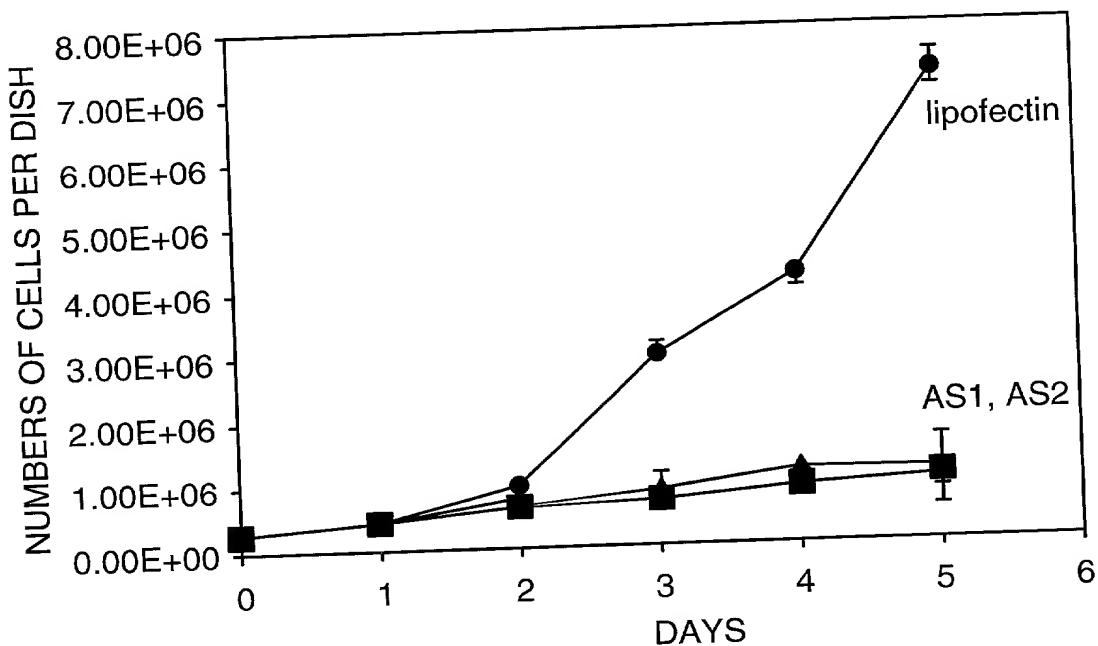


FIG. 12B

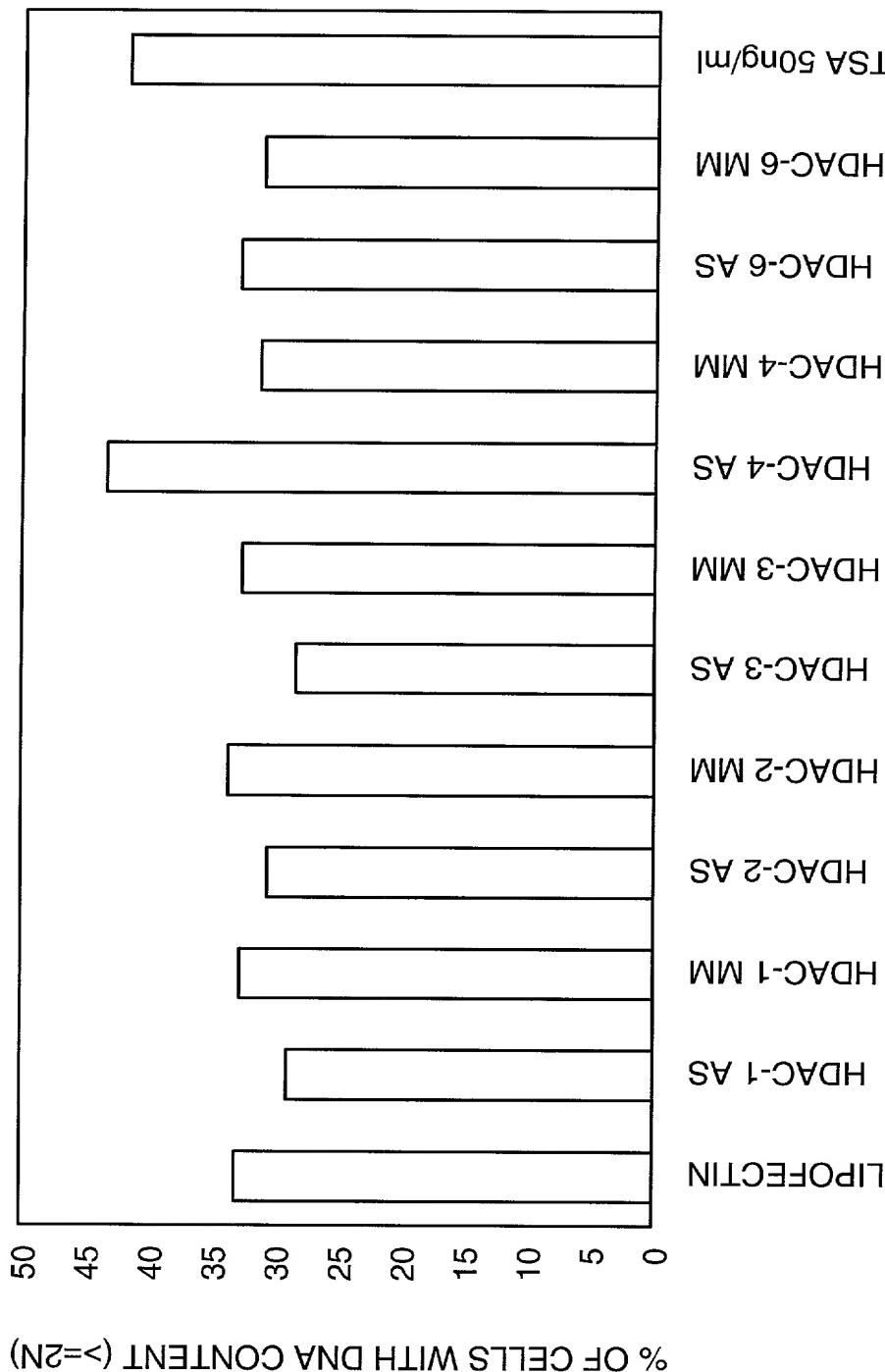


FIG. 13

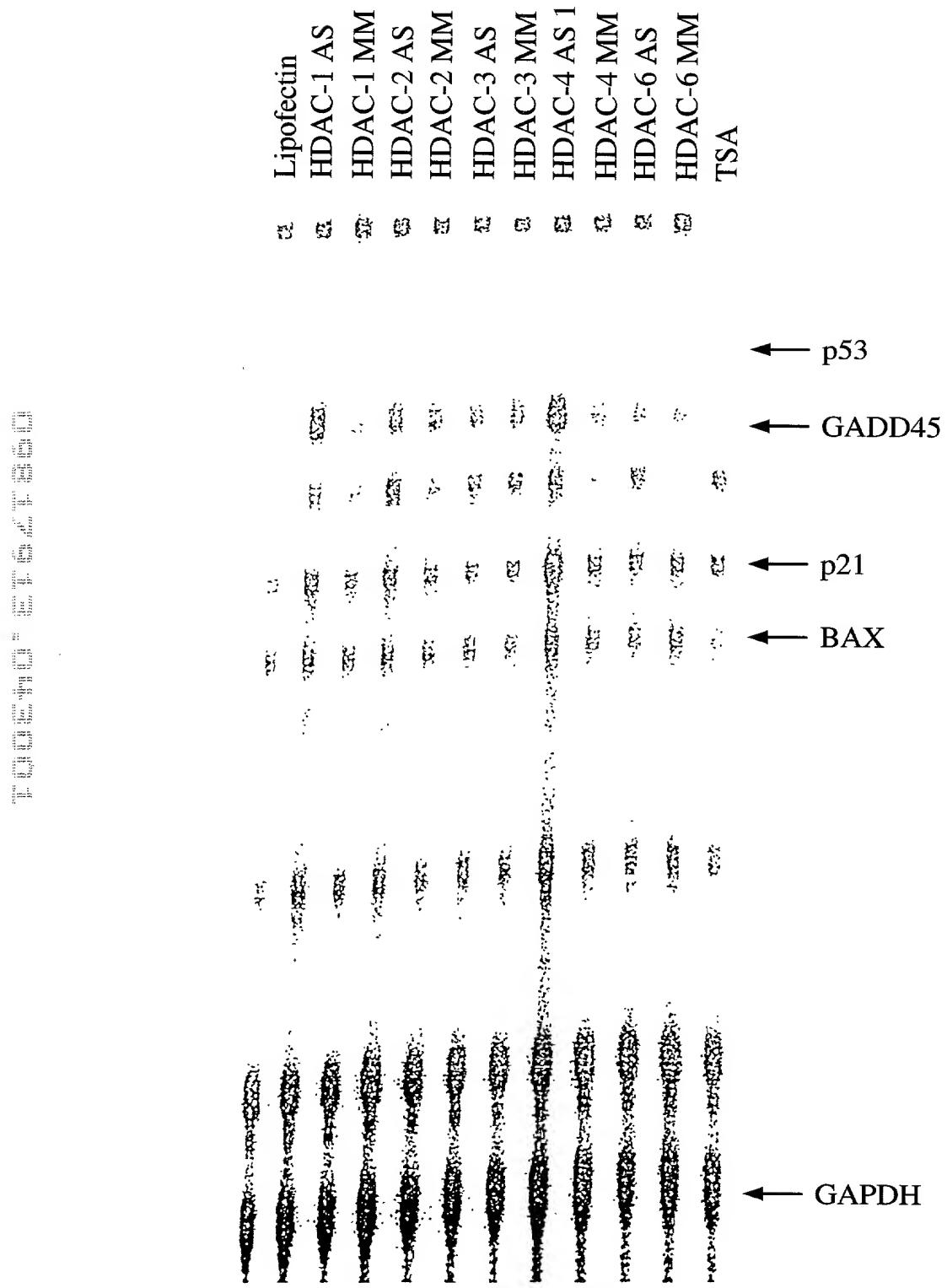


FIG. 14

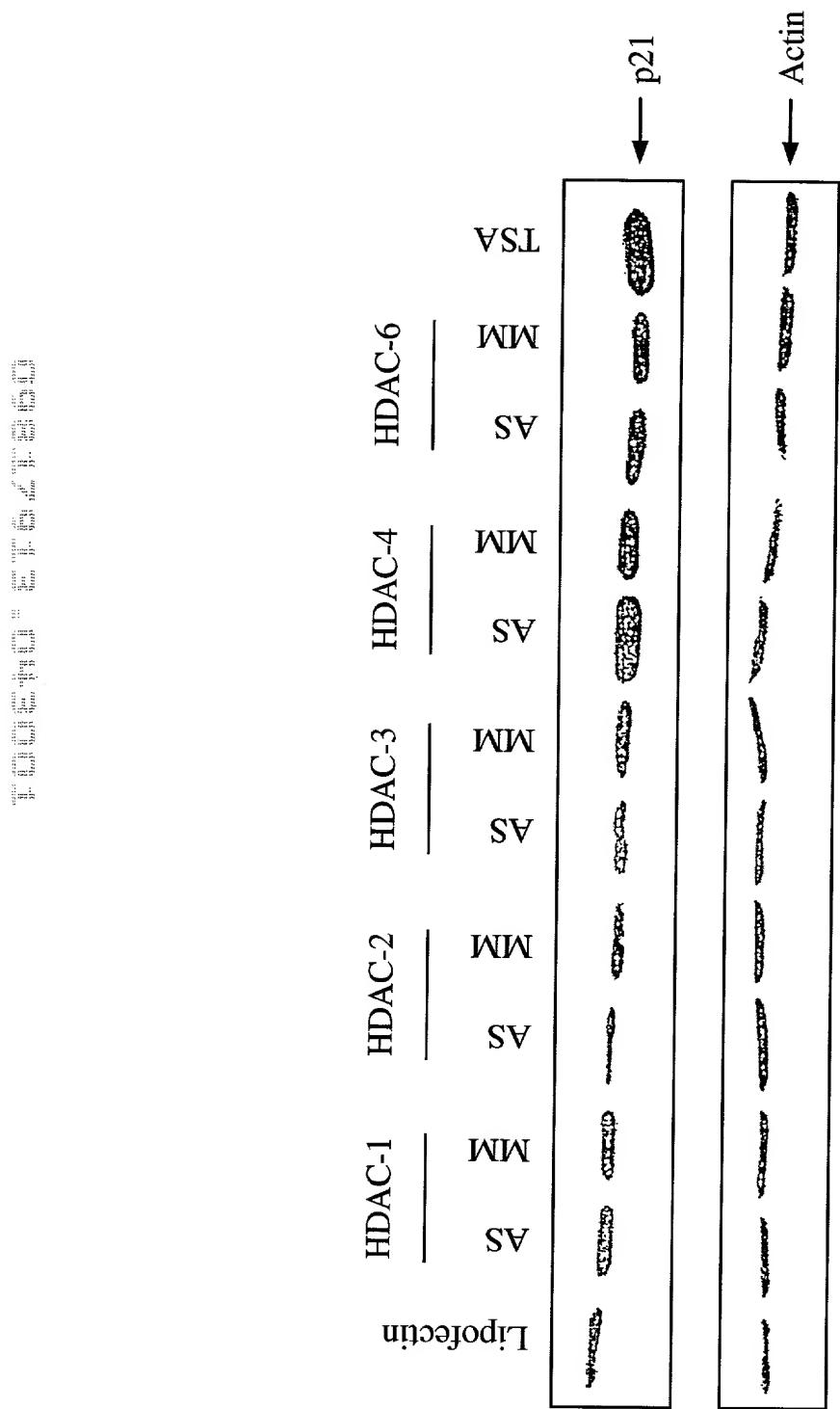


FIG. 15

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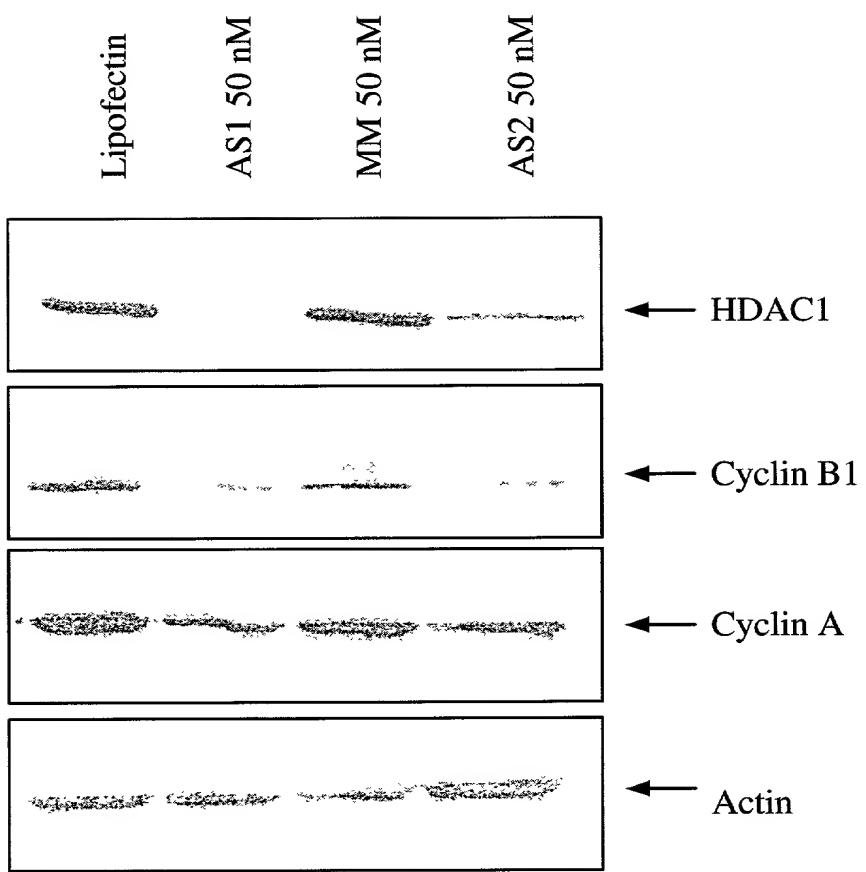
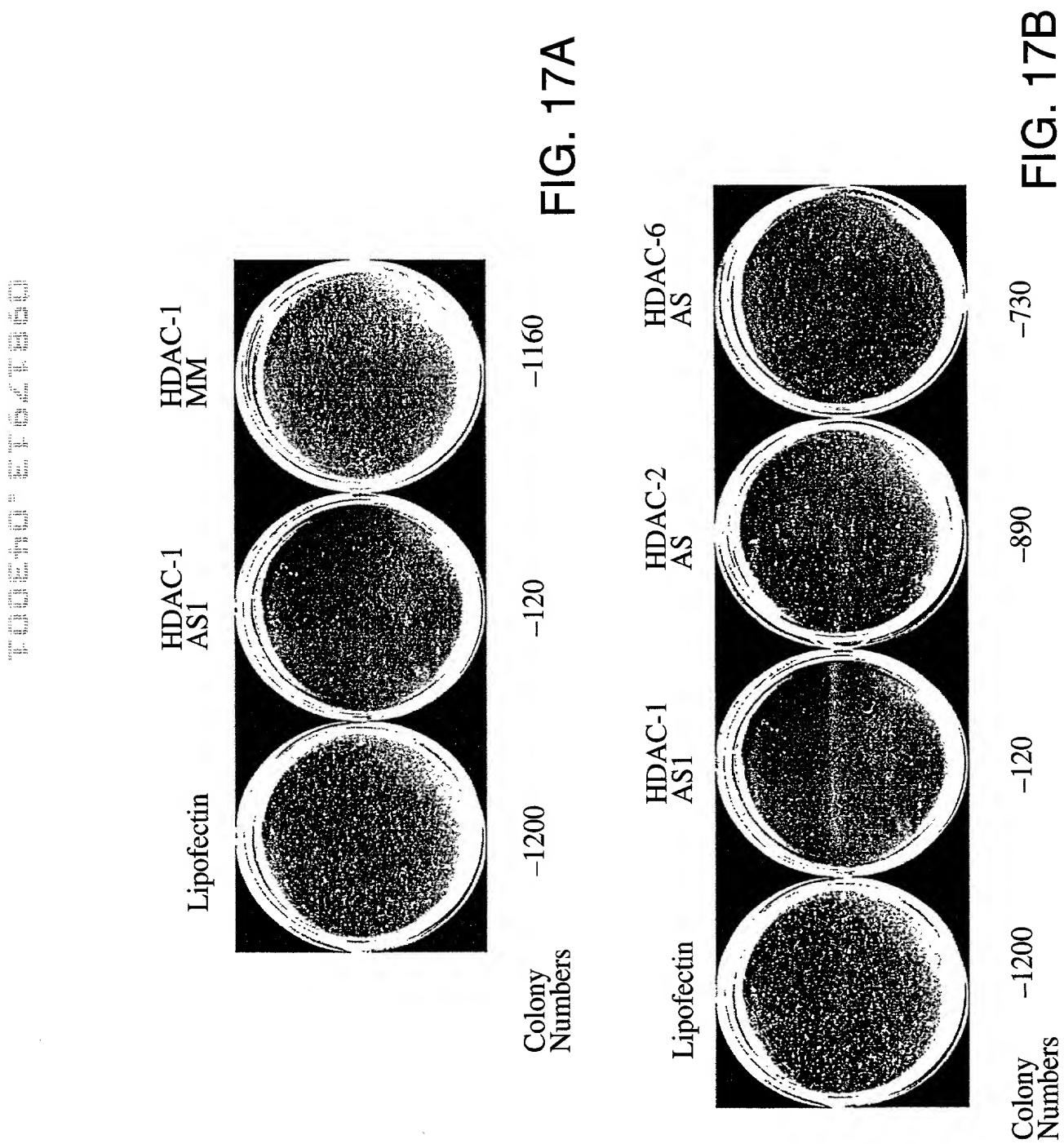
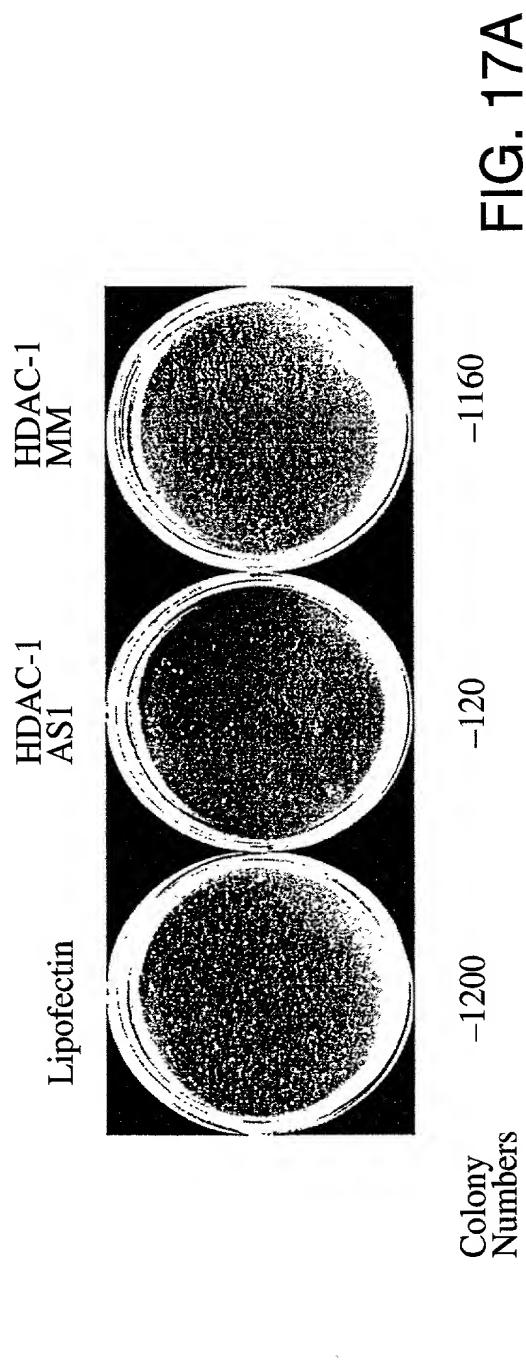


FIG. 16

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Compound 3

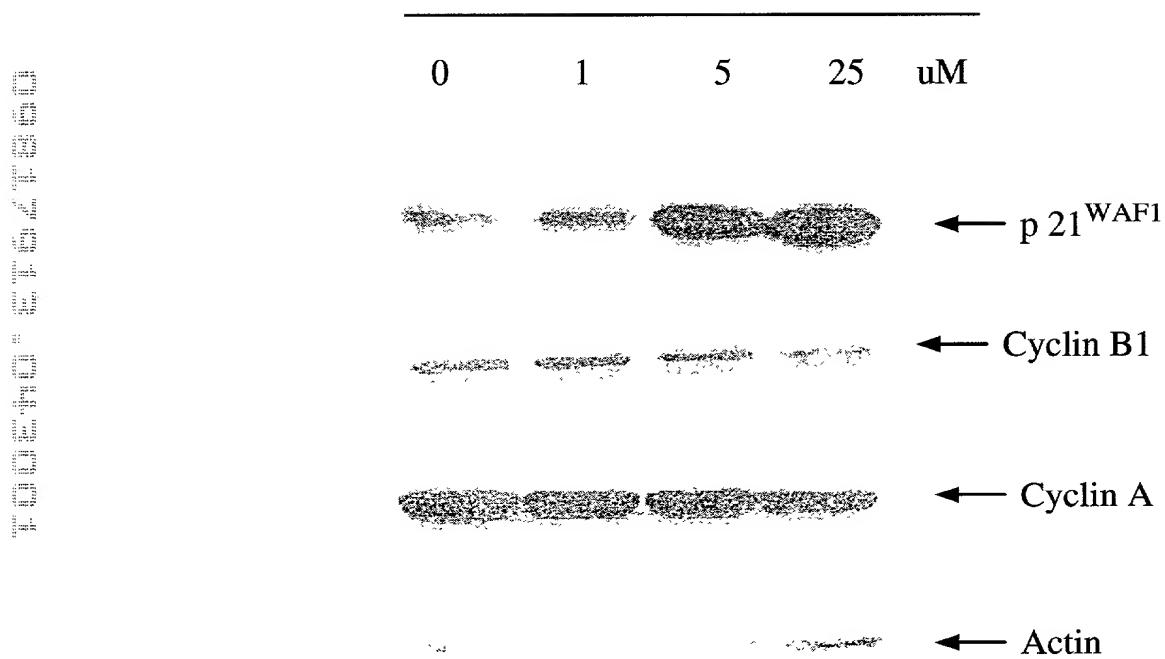


FIG. 18